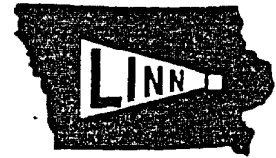




# Linn County Emergency Management Agency

50 2nd Avenue Bridge  
Cedar Rapids, Iowa 52401-1256



Phone: (319) 363-2671 Day or Night • Fax: (319) 398-5316 • E-Mail: linnema@jmbest.net

20 December 2002

DOCKET NUMBER

DOCKETED  
USNRC

16

Secretary  
Nuclear Regulatory Commission  
Washington, DC 20555-0001

PETITION FILE PRM 50-79

December 30, 2002 (11:04AM)

(67FR 66588)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

SUBJECT: Comments to the Nuclear Regulatory Commission  
Reference Petition by Lawrence T. Christian, Docket PRM 50-79;  
Child Care Facility Emergency Planning

**Introduction:** As a point of introduction and to establish my creditability in responding to this issue, I am the Director of Emergency Management for Linn County, Iowa. The population of Linn County is 194,000 and is the home of the Duane Arnold Energy Center (DAEC). The Emergency Planning Zone (EPZ) for the DAEC has over 180,000 persons in two risk counties (Benton and Linn), and in some areas the EPZ extends 17 miles from the DAEC since the 10 mile cuts through the metropolitan area of Cedar Rapids and Marion. I am responsible for 73 elementary and secondary schools, 85 adult congregate care facilities, 2 hospitals, 3 corrections facilities, and 90 licensed child care facilities in the EPZ. This portion of my special needs population is approximately 48,000. We take the protection of this special population very seriously and have developed extensive plans and conducted training to insure this population is safe from any emergency, not just one associated with a nuclear power plant.

**Issues:** The concerns raised by the petitioner, Lawrence T. Christian, may be valid in his particular jurisdiction but it IS NOT an issue for regulatory oversight by the Nuclear Regulatory Commission. The issues raised by the petitioner are **LOCAL** issues. The nuclear power plant at Three Mile Island provides an element of risk just like and other industrial site in the community. Mr. Christian seeks to regulate the local emergency planning for the child care facility where his children attend, but only for a potential release of nuclear material. But what about other hazards that could affect the safety of his children? Does he share any concern from potential releases from hazardous chemical facilities, natural disasters, or civil events such as terrorism?

The petitioner's concerns are targeted at the NRC to fix a perceived problem with a remedy that affects over 100 nuclear power plants nationwide, when the problem he addresses in his petition is only in his local community. I believe this is a **LOCAL** issue which needs to be addressed by that local jurisdiction. It does not imply a need for further national regulatory response.

Template = SECY-067

Serving the Communities of:

- Bertram
- Central City
- Cedar Rapids
- Coggon

- Fairfax
- Hiawatha

- Marion
- Mount Vernon

- Prairieburg
- Robins

SECY-02

- Walker
- Walford

The petitioner raises several valid, parental concerns to the child care facility manager and the local Emergency Management Agency. If these concerns are not being met to his satisfaction, his complaint needs to be targeted to the local city and county governing entity for the Emergency Management Agency and the state or local agency which licenses the child care facility. Also as a parent, he has the right to demand action from the child care facility and if his concerns are not adequately addressed and he feels his children remain at risk, he should remove his children from the facility.

All of the issues the petitioner requests are **LOCAL** response issues and do not need additional federal regulations. In the case of my community, the partnership we enjoy with the Duane Arnold Energy Center has allowed us to address most if not all of the petitioners concerns and I feel our facilities are well informed and prepared to execute the emergency procedures to protect the children from ANY hazard, not only ones related to the nuclear power plant. Just to address the point that not all communities have similar problem as addressed by the petitioner, the DAEC and the local Emergency Management Agencies in Linn and Benton Counties, as Radiological Emergency Preparedness (REP) program Risk Counties, have done the following:

- Designated Temporary Relocation Centers (TRC) for all child care facilities and schools. These TRC's are outside of the EPZ but not as far away as the Permanent Relocation Centers for the general population. TRC's are listed in the local telephone book for reference by parents.
- Coordinated a comprehensive transportation resources and response plan with the Emergency Management Agency.
- Coordinated with the transportation providers such as schools and public transit providers to develop a coordinated transportation plan to include driver recall procedures
- Issues and maintains indoor warning radios to each child care facility and school building in the EPZ, along with the correction centers, hospitals, and adult congregate care facilities.
- Annually inspects and monthly tests the indoor warning system used to inform the child care, schools and adult care facilities.
- Annually offers training on the Radiological Emergency Preparedness (REP) program to each facility.
- Recommends that each child care facility and school has an accountability plan based on their individual facility program such as using grade books or sign in roster. This accountability is for children and staff.
- Provided public information to the general community on what to do, where to go, and who to contact for additional information. This information is provided in the local telephone books and updated annually with each printing.

- Children in child care facilities and schools are moved out of any affected downwind sub areas at a Site Area Emergency, before there is any release of radiation.
- Indoor warning and Emergency Alert System (EAS) messages are coordinated and computer generated to insure fast and accurate information is provided to the public.

The petitioner has several actions that are not practical for emergency situations:

- The issuance of child restraints by the nuclear power plant for each child is very impractical. It would be very difficult to meet all needs of the day care centers by providing each child with an age and weight appropriate restraint seat for each child in the program with the constantly changing facility demographics. Also, these seats must be restrained in some way. Since most emergency evacuation will be by bus, we find most buses do not have seat belts or restraint except those specifically adapted for use by handicapped or special needs children. Also in most evacuations there is generally not enough time to restrain every child. Restraining each child seat in a bus would take an inordinate amount of time to accomplish and would delay the removal of the children from the immediate hazard or risk. The same requirements for personal vehicles for child restraints are not practical for emergency situations. In the case of infants, several are placed into cribs and the cribs are taken on the bus. If the petitioner feels this is important, he should provide the appropriate child restraint seat for his child and then upgrade or update that seat as the child grows within the year.
- Fingerprinting and identification photographs of the children in the child care facility do not need to be federally mandated. There are many existing programs for parents to voluntarily fingerprint and photograph their children. If the petitioner feels this is important then he should assist the child care facility in making it happen. Several organizations sponsor or support child fingerprinting and identification measures. Also, the child care facility should have procedures in place as part of their state or local licensing procedures to insure that only authorized persons can remove a child from the facility.
- Local information can be placed in the local telephone book by the nuclear power plant or the local Emergency Management Agency. Child care site-specific information should be provided by the facility manager to the parents. Research has shown that general handouts do not last very long in the home. This is particularly applicable if the community has brochures for flooding, tornadoes, hurricanes, fires, and winter storms. FEMA and the Red Cross pass this information out to the public each year, but in most cases it is discarded from the home as being unnecessary with out a specific threat.

- Stockpiling Potassium Iodide (KI) for use by the day care facilities is a waste of time, money, and effort. Currently there are arguments on the proper dosage for small children and infants and there is a risk to dispensing KI and there is a question of will the local community or the child care facility assume the risk of giving KI to infants and small children even with parental consent. Also, if the children are removed before any release of radiation, such as at a Site Area Emergency, there is no need to administer KI since the children would not be exposed.


A point that is missed in the petitioner's action is that in most cases the inspection of child cares facilities to insure they are compliant with state and federal regulations are a **STATE or LOCAL** government function. Whichever agency licenses these facilities should insure the facilities are meeting all required standards and this is not a function of the nuclear power plant.

Since most of the petitioners concerns can be remedied at the local level, I offer our assistance in sharing our successful program in order that those childcare facilities in and around the TMI facility are better protected.

I am attaching a copy of out telephone book instructions for your information. This will show that we are already doing much of what the petitioner is demanding and to demonstrate that federal regulations do not need to be enacted to correct problems that are not industry wide.

If you need additional information on the programs in place to support the emergency preparedness actions for Linn and Benton Counties to support the REP program for the Duane Arnold Energy Center, please contact me.

Respectfully,



WALTER E. WRIGHT, CEM  
Director of Emergency Management

# Emergency Action Plan

## Duane Arnold Energy Center

Federal regulations require that state and county governments implement emergency plans to protect the public if there is an emergency at the Duane Arnold Energy Center (DAEC). The purpose of these plans is to ensure the public will know what to do in an emergency and how to do it. Information in this section describes actions you may need to take if there is an emergency at DAEC.

Emergency plans have been developed for an area called the Emergency Planning Zone (EPZ). The EPZ is an approximate ten-mile radius around DAEC. This includes parts of Benton and Linn Counties. Emergency plans for DAEC are regularly demonstrated for evaluation by the Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission (NRC) to prove they are adequate to protect the health and safety of the public.

## Emergency Planning Zone and Subareas

The emergency plan provides for identifying subareas within two, five, and ten miles from DAEC. Some subareas in Cedar Rapids and Marion are beyond ten miles from DAEC. If an emergency should develop at DAEC, it is not likely to affect all residents in the EPZ. For example, protective actions recommended for subarea #1, an area within two miles of the plant, may not be recommended for other subareas.

The EPZ map in this section shows subareas. Find the number of the subarea where you live. Note the number of the subarea where you live.

If there is an emergency, the DAEC will immediately notify Linn and Benton Counties. State and federal officials will also be notified.

## Emergency Alert System

The Emergency Alert System (EAS) is a group of radio and television stations that broadcast official information during an emergency. If the outdoor warning sirens sound, tune to WMT Radio (600 AM or 96.5 FM) for up-to-the-minute emergency information. WMT is the official designated EAS Station in this area.

## Emergency Classifications

Emergency classifications are divided into four categories. Each calls for a certain level of response from plant and government personnel.

- **Unusual Event:** The least serious of the four levels. The event poses no threat to you or to plant employees, but emergency officials are notified. Public action is not needed.
- **Alert:** Declared when an event has occurred that could reduce the plant's level of safety, but backup plant systems still work. Emergency agencies are notified and kept informed, but no action by the public is necessary.
- **Site Area Emergency:** Declared when an event involving major problems with the plant's safety systems has progressed to the point that a release of some radioactivity into the air or water is possible, but is not expected to exceed Environmental Protection Agency Protective Action Guidelines (PAGs) beyond the site boundary. Public action may be needed. Warning sirens are sounded. Instructions for public action are announced on EAS (Emergency Alert System) stations.
- **General Emergency:** The most serious of the four classifications and is declared when an event at the plant has

caused a loss of safety systems. Radiation could be released that would travel beyond the site boundary. State and local authorities will take action to protect residents living near the plant. Public action is needed. Warning sirens are sounded. Instructions are announced on the EAS stations.

## Warning Sirens

The public is informed of an emergency by a system of outdoor warning sirens and radio broadcasts. This network of sirens provides coverage throughout the EPZ. A monthly siren test is conducted the first Wednesday of each month. It starts at approximately 8:45 am and tests the PA system plus the steady and wail tone sirens. If there is an emergency the sirens will sound with a three-to-five-minute steady tone. This alerts you to tune to local radio stations for emergency information. You will be given specific instructions if you need to go indoors, evacuate, or take other protective actions.

If you hear the sirens, check with neighbors and friends. Make sure they've heard the sirens and understand that they should tune to WMT radio (600 AM or 96.5 FM). **Do NOT use the phone unless you have a special emergency and require help.** Leave the lines open for official emergency business.

Radio and TV stations will inform the public when protective actions are no longer necessary.

## Accidental Siren Sounding

If you hear a siren but no EAS message is broadcast, please call

- Linn County Emergency Management Agency at 363-2671
- Benton County Emergency Management Agency at 472-4519

DO NOT call 911 if a siren sounds.

**\* PLEASE READ AND KEEP THIS EMERGENCY INFORMATION \***

# Emergency Action Plan

## Protective Actions

### Possible Emergency Actions

Concern for public safety in a nuclear emergency is because of the possibility of a radioactive release. Protective actions may be needed to avoid or limit radiation exposure to the public. Protective actions are directed by state and county officials. Actions recommended will depend upon plant conditions at DAEC and weather conditions. The actions recommended may be to take shelter or evacuate. Respond promptly to all instructions. You do not need to rush.

### If You Are Told To Take Shelter

- DO NOT pick up children at schools, preschools, or day care centers. They will be indoors and taken care of there.

#### If indoors:

- Remain there until further notice
- Shut all windows and doors
- Turn off all ventilation (furnaces, fireplaces and air conditioning)
- Cover open food containers

#### If outdoors:

- Go indoors immediately and follow the instructions above
- Wash hands and face before eating and handling food
- Take a lukewarm shower if possible

#### Everyone:

- Tune to the official EAS Station, WMT Radio (600 AM or 96.5 FM)
- Use telephone for emergencies only.

Primary Emergency  
Alert Station  
WMT 600 AM or 96.5 FM  
Cedar Rapids

### If Told To Evacuate

- Evacuation is a precautionary move recommended for your safety. Please evacuate promptly once the recommendation is made.
- Evacuation can last for a few hours or days. Plan for a two-or three-day absence. Turn off small appliances, faucets, and ventilation systems. Lock doors and windows
- Pack necessities. See the checklist on the next page. Add items you might need.
- Gather persons in your home. If directed by medical authorities, pick up relatives in nursing homes or hospitals
- Residents with children in Benton and Linn County schools in an affected subarea will be able to pick up children at the designated Temporary Relocation Center (TRC). (See Temporary Relocation Center chart )
- Leave pets indoors with stored food and water for several days, or take them to a private kennel. Public relocation centers do not have places for pets.
- Take this portion of the phone book with you and follow instructions given in EAS messages
- Tie a white cloth to your front door. This indicates to emergency workers you have left your home.
- Drive safely. Use suggested evacuation routes. (See map ) Stay tuned to WMT Radio (600 AM or 96.5 FM) for updated information.
- Keep windows and vents closed if you are driving in a subarea that is being evacuated.
- Law enforcement agencies will provide traffic control and will maintain security in evacuated areas
- Follow directions provided by local authorities to your designated Relocation Center. Relocation Centers are established to monitor evacuees for radiological contamination. Short-term housing and food is provided. Please go to the Relocation Center for monitoring and registration even if you and your family do not need housing
- You and your family can return to an evacuated area when informed by an EAS message or relocation center manager. State and local officials will make this decision.

### DAEC INFORMATION LINES

*The Emergency Response Plan for the Duane Arnold Energy Center is available on the following phone lines.*

**DAEC**  
Information Line

at  
398-4812



362-9955 and enter category 4300.

# Emergency Action Plan

## Farm Information

### "What do I have to do?"

Farmers, food processors, and distributors in Linn and Benton Counties are sent a separate brochure. This brochure gives information about actions needed to protect the food chain if there is an emergency at the DAEC. Farmers may need to put livestock in buildings and, if possible, provide them with feed stored in sheds or silos and protected water from covered stock tanks. In an emergency, information is provided to those who are affected. Copies of the brochure, "State of Iowa Radiological Emergency Information for Farmers, Food Processors, and Food Distributors," are available from your County Extension Service. In Linn County call 377-9839. In Benton County call 472-4739.

## Special Needs

Because of physical limitations or medical conditions, you or members of your household may need assistance in an evacuation. Please complete and return the SPECIAL NEEDS INFORMATION CARD included either in a telephone book (metropolitan residents) or in the mail (rural residents). This information will be kept confidential. The information collected will be used by emergency management officials for assessing the communities need for emergency transportation and shelter for planning purposes. *Even if you have returned a card in previous years, please complete and return a card this year.* To request a SPECIAL NEEDS CARD, please call Alliant Energy's Customer Service Center at 398-4406, or contact your local emergency management office.

## The Elderly and Disabled

The elderly and disabled can ask for assistance in an evacuation by calling the following

- Linn County Emergency Management Agency at 398-5171 or 363-2671.
- Benton County Emergency Management Agency at 472-4519

## Hearing-Impaired

Hearing-impaired persons can receive information in an emergency situation on their Telephone Device for the Deaf (TDD) by calling these phone numbers.

Benton County residents - Benton County Sheriff's Office at 472-2337

Linn County residents - Linn County Emergency Management at 398-3472 during normal business hours OR Linn County Sheriff at 398-4016

## Hospitals and Nursing Homes

If there is an emergency at the DAEC, hospitals and nursing homes may be asked to provide shelter or evacuate patients. Depending on medical conditions, patients may be released to friends or relatives, or relocated to facilities outside the EPZ. Intensive care and other patients unable to withstand evacuation will be sheltered at their care facility. Information about hospital and nursing home patients will be issued in the EAS messages.

## Transportation

If possible, use your own transportation. If you can't, follow these guidelines:

- Persons in the Cedar Rapids Metropolitan area can go to the nearest bus stop and wait for free pickup. They will be taken to a Relocation Center.

## If you live in a rural area:

- Linn County residents can call the Transportation Officer at the Linn County Emergency Management Agency at 398-5171 or 363-2671.
- Benton County residents can call the Benton County Emergency Management Agency at 472-4519.

## Things to take if told to evacuate:

### Medical Items

- ☐ Medicine(s)
- ☐ Glasses
- ☐ Special diet foods

### Personal Items

- ☐ Special soaps
- ☐ Shaving items
- ☐ Toothbrush/toothpaste
- ☐ Sanitary items

### Bedding

- ☐ 2 blankets per person or sleeping bag
- ☐ Pillow(s)

### Extra Clothing

- ☐ Clothes for two days for each person
- ☐ Shoes

### Identification and Important Papers

- ☐ Driver's license
- ☐ Social Security Card

### Baby Supplies

- ☐ Baby food/formula
- ☐ Diapers
- ☐ Baby bottles

### Miscellaneous

- ☐ Cash / checkbook / credit cards
- ☐ Flashlight
- ☐ Portable radio with batteries
- ☐ Extra car keys
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_

**Primary Emergency  
Alert Station  
WMT 600 AM or 96.5 FM  
Cedar Rapids**

# Emergency Action Plan

## School Information

If school evacuation is recommended, children from schools in subareas that may be affected will be moved to designated Temporary Relocation Centers (TRCs). Parents of children attending school in the EPZ can pick up children at the designated TRC as indicated in the chart at right. This includes all public and private schools, preschools, and day care centers inside the EPZ. If the general public is evacuated, any students remaining at a TRC will be taken to designated permanent Relocation Centers. EAS stations will broadcast the location to which students are taken.

**Primary Emergency Alert Station**  
WMT 600 AM or 96.5 FM  
Cedar Rapids

### DAEC INFORMATION LINES

The Emergency Response Plan for the Duane Arnold Energy Center is available on the following phone lines:

**DAEC**  
Information Line

at  
398-4812



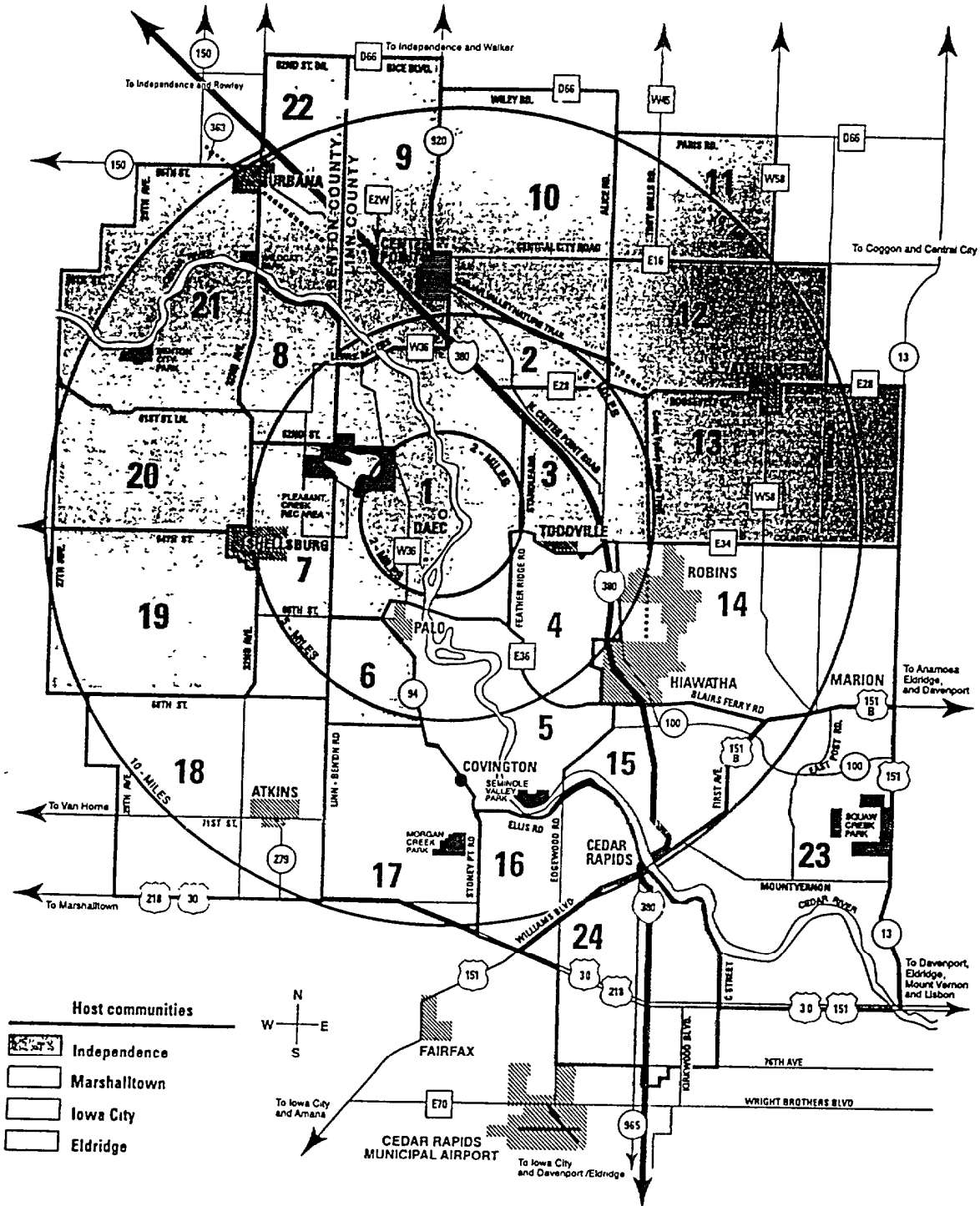
362-9955 and enter category 4300.

## Temporary Relocation Centers for Schools, Preschools and Day Care Centers

Subarea	If Your Child Attends	Subarea	If Your Child Attends
16	Cedar Rapids Community Schools and affiliated preschools & day cares (Northwest) <i>Harrison Hoover Jackson Madison, Roosevelt Taft Taft Alternative and Truman</i> Relocate to Amana (Amana School)	23	Cedar Valley Christian School and Preschool
16	Cleveland Elementary School, Cedar Rapids (Northwest) Relocate to Tiffin (Clear Creek-Amana High School)	23	Grace Baptist School Relocate to Mount Vernon (Washington Elementary)
24	Alburnett Community School's, Toddville Elementary School Relocate to Coggon (Coggon Elementary Center)	23 and 24	Preschools and day care centers not otherwise listed Relocate to Mount Vernon (Cornell College)
5 14	All Metro Area	24	Center Point Child Care Center
15 16	Catholic Schools	24	Center Point - Urbana Community Schools, Center Point Head Start and Urbana Preschool Relocate to Rowley (South Elementary School)
23 24	Preschools and Day Cares Relocate to Iowa City (City High School)	24	Trinity Lutheran School and Preschool Relocate to Solon (Lakeview Elementary School)
15	Good Shepherd Lutheran Day School	23	Cedar Rapids Community Schools (Southeast) <i>Erskine Grant Wood Johnson McKinley Metro Meira Parent Child Center Monroe and Washington</i> Relocate to Solon (High School)
15	Isaac Newton Christian Academy and Preschool	24	Cedar Rapids Community Schools & affiliated preschools & day cares (Southwest) <i>Grant, Jefferson Taylor Van Buren, and Wilson Elementary &amp; Middle</i>
15	Summit School	16	Coolidge Relocate to Springville (Elementary or High School)
5 14 and 15 16	Preschools and day care centers not otherwise listed Relocate to Iowa City (Southeast Junior High)	18	Atkins Elementary School and Preschool
15	Cedar Rapids Community Schools and affiliated preschools & day cares (Northeast) <i>Arthur Franklin Garfield Harding Kennedy Kenwood Pierce Polk Wright</i>	18	Central Lutheran School Relocate to Van Horne (Benton Community High School)
24	College Community Schools (Prairie)	24	Vinton/Shellsburg Community Schools <i>Shellsburg Attendance Center Vinton Attendance Center**</i> Relocate to Vinton (Tilford Middle School)
24	College Community Center	** Only those students residing in the Emergency Planning Zone (EPZ)	
24	Four Oaks Day Treatment Center Day Care & Headstart		
14	Hiawatha Elementary School		
14	Nixon Elementary School	See large map on following page for subareas	
4	Andrews Christian Academy Relocate to Iowa City (West High School)		
14	Linn-Mar Community Schools Relocate to Mount Vernon (Cornell College)		
23	Marion Independent Schools Relocate to Mount Vernon (Middle School)		



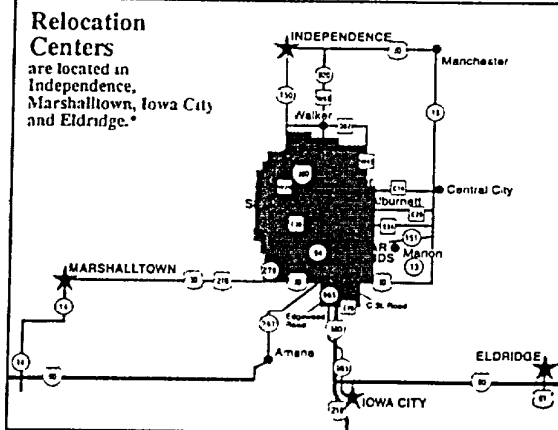
# Emergency Action Plan



# Emergency Action Plan

## Relocation Centers

- 1 Subarea includes immediate vicinity around DAEC in Rural Linn County - Relocate to Independence**  
Evacuate via (East of Cedar River) I-380 north to Iowa 150, north to Independence OR (West of Cedar River) west on 66th Street to Shellsburg and north on 32nd Avenue to Iowa 150, north to Independence
- 2 Subarea includes rural Linn County Relocate to Independence**  
Evacuate via North Center Point Road (old 150) north to Iowa 920, north and west to Iowa 150 north to Independence
- 3 Subarea includes Toddville and Rural Linn County Relocate to Independence**  
Evacuate via I-380 north to Iowa 150, north to Independence OR North Center Point Road (old 150) north to Iowa 920, north and west to Iowa 150 north to Independence
- 4 Subarea includes area northwest of Cedar Rapids and Rural Linn - County Relocate to Iowa City**  
Evacuate via I-380 south to US 218 to Iowa City
- 5 Subarea includes NW/NE Cedar Rapids, Palo, Covington and Rural Linn County - Relocate to Iowa City**  
Evacuate via Iowa 94 (F Avenue) east and south to Edgewood Road, south to US 30/218 east to I-380 south to US 218 to Iowa City OR Blairs Ferry Road south and east to I-380, south to US 218 to Iowa City
- 6 Subarea includes Rural Linn County Relocate to Independence**  
Evacuate via Shellsburg Road/66th Street west to 32nd Avenue, north to Iowa 150 north to Independence
- 7 8 Subareas include Shellsburg and Rural Benton County Relocate to Independence**  
Evacuate via 32nd Avenue north to Iowa 150, north to Independence
- 9 Subarea includes Center Point and Rural Linn County Relocate to Independence**  
Evacuate via I-380 north to Iowa 150, north to Independence OR Iowa 920 north and west to Iowa 150 north to Independence
- 10 Subarea includes Rural Linn County Relocate to Independence**  
Evacuate via Iowa 920 north and west to Iowa 150, north to Independence
- 11 Subarea includes Rural Linn County Relocate to Independence**  
Evacuate via Central City Road east to Iowa 13, north to US 20, west to Independence OR Troy Mills Road north to Walker Road, west to Quasqueton Road, north to Iowa 282, north to US 20, west to Independence
- 12 Subarea includes Alburnett and Rural Linn County Relocate to Independence**  
Evacuate via Central City Road to Iowa 13, north to US 20, west to Independence OR Roosevelt Street/Burnett Station Road east to Iowa 13, north to US 20, west to Independence
- 13 Subarea includes Rural Linn County Relocate to Independence**  
Evacuate via County Home Road east to Iowa 13, north to US 20, west to Independence OR Roosevelt Street/Burnett Station Road east to Iowa 13, north to US 20, west to Independence
- 14 Subarea includes Hiawatha, Robins, NE Cedar Rapids, Marion and Rural Linn County - Relocate to Iowa City**  
Evacuate via I-380 south to US 218 to Iowa City OR US 151B (1st Avenue) west to I-380, south to US 218 to Iowa City OR US 151/Iowa 13 south to US 30/151, west to I-380 south to US 218 to Iowa City
- 15 Subarea includes NE Cedar Rapids Relocate to Iowa City**  
Evacuate via I-380 south to US 218 to Iowa City
- 16 Subarea includes SW/NW Cedar Rapids Relocate to Marshalltown**  
Evacuate via US 30/218 west to Marshalltown OR US 151 south to I-80, west to Iowa 14, north to Marshalltown
- 17 Subarea includes SW/NW Cedar Rapids and Rural Linn County - Relocate to Marshalltown**  
Evacuate via US 30/218 west to Marshalltown
- 18 Subarea includes Atkins and Rural Benton County Relocate to Marshalltown**  
Evacuate via US 30/218 west to Marshalltown OR south on Iowa 279 to US 30/218, west to Marshalltown
- 19 20 21 Subareas include Rural Benton County Relocate to Independence**  
Evacuate via 32nd Avenue north to Iowa 150 north to Independence
- 22 Subarea includes Urbana and Rural Benton County Relocate to Independence**  
Evacuate via Iowa 150 north to Independence
- 23 Subarea includes SE/SW Cedar Rapids, Marion, and Rural Linn County Relocate to Eldridge (Davenport area)**  
Evacuate via US 151/Iowa 13 south to US 30/151, west to I-380, south to I-80 east to US 61 north to Eldridge OR US 30/151 west to I-380, south to I-80 east to US 61 north to Eldridge OR I-380 south to I-80, east to US 61, north to Eldridge
- 24 Subarea includes SW Cedar Rapids Relocate to Eldridge (Davenport area)**  
Evacuate via Kirkwood Blvd south to Wright Brothers Blvd, west to I-380 or Iowa 965 (6th Street SW), south to I-80, east to US 61, north to Eldridge OR Edgewood Road south to Wright Brothers Blvd., east to I-380 or Iowa 965 (6th Street SW) south to I-80 east to US 61, north to Eldridge



\* Local authorities will direct you to the Relocation Center in the city listed

# Emergency Action Plan

## Facts About Radiation

Radiation has surrounded the earth since time began. There are several types of radiation – natural radiation and human-made radiation. Natural radiation is found in radon gases, potassium in food and water, cosmic rays from the sun, and uranium, radium, and thorium in the earth's crust. Human-made radiation is used in X-rays, smoke detectors, and in the production of electricity by a nuclear powered generating facility like the Duane Arnold Energy Center.

Radiation is invisible, silent, tasteless, and odorless, but it can be measured with special instruments. To measure the amount of radiation a person receives, a

unit called a millirem (mR) is used. One mR is equal to viewing color TV an hour a day for one year. The average chest x-ray is 10-20 (mR). The average person living in Iowa receives 300 to 400 mRs per year from naturally occurring sources called "background".

The effects of radiation depend upon the length of time you are exposed, the distance from the source, and the amount of radioactive materials that are inhaled or ingested into the body. Your health or physical condition can also affect your reaction to radiation exposure. For example, the younger you are, the more rapidly your cells develop, thus the more sensitive you are to radiation.

The Environmental Protection Agency (EPA) sets strict guidelines to control radiation exposure. The purpose

of these guidelines is to protect the public, the environment, and workers in the nuclear industry. The Nuclear Regulatory Commission (NRC) is responsible for implementing and enforcing these guidelines.

Nuclear-powered generating facilities are designed and built to keep radiation inside the plant buildings. Radiation levels are constantly monitored both inside and outside the plant. In 30 years of nuclear power production in the U.S., no deaths or serious injuries among the public caused by radiation have been recorded. Even so, you should be familiar with the protective actions discussed in this section. This can help you keep exposure within acceptable limits in an emergency.

## Sources of Emergency Information

This information has been prepared by the Duane Arnold Energy Center in cooperation with the Iowa Emergency Management Division, Benton County Emergency Management Agency, and Linn County Emergency Management Agency. You may obtain further information from any of the following persons:

### Ellen M. Gordon

Administrator  
Iowa Emergency Management Division  
Hoover State Office Building  
Room A-29  
Des Moines, IA 50319  
515/281-3231

### Paul R. Sullivan

Manager – Emergency Planning  
Duane Arnold Energy Center  
3313 DAEC Road  
Palo, IA 52324  
319/851-7191 or 851-7011

### Scott E. Hansen

Coordinator  
Benton County Emergency Management  
County EOC  
111 E 4th St. - Courthouse  
Vinton, IA 52349  
319/472-4519

### Walter E. Wright

Director  
Linn County Emergency Management Agency  
City Hall  
50 Second Avenue Bridge  
Cedar Rapids, IA 52401  
319/363-2671

**\* PLEASE READ AND KEEP THIS EMERGENCY INFORMATION \***